

Name: Solutions

1. Simplify  $\frac{x}{8} - \frac{x-16}{8} = \frac{x-(x-16)}{8} = \frac{x-x+16}{8} = \frac{16}{8} = 2$

2. Simplify  $\frac{x}{x-6} - \frac{6}{x-6} = \frac{x-6}{x-6} = 1$

3. Simplify:  $\frac{a+1}{18} + \frac{a}{6} = \frac{a+1}{18} + \frac{3a}{18} = \frac{a+1+3a}{18} = \frac{4a+1}{18}$

4. Simplify:  $\frac{a+1}{7} - \frac{a}{6} = \frac{6(a+1)}{6 \cdot 7} - \frac{7 \cdot a}{7 \cdot 6} = \frac{6a+6-7a}{42} = \frac{-a+6}{42}$

5. Simplify:  $\frac{a+1}{15} + \frac{a}{6} = \frac{2(a+1)}{2 \cdot 15} + \frac{5a}{5 \cdot 6} = \frac{2a+2+5a}{30} = \frac{7a+2}{30}$

$$6. \text{ Simplify } \frac{3}{x} + \frac{5}{y} = \frac{3y}{xy} + \frac{5x}{yx} = \frac{3y+5x}{xy}$$

$$7. \text{ Simplify } \frac{3}{4x} - \frac{5}{x^2} = \frac{3x}{4x^2} - \frac{20}{4x^2} = \frac{3x-20}{4x^2}$$

$$8. \text{ Simplify } \frac{5}{12} + \frac{2}{18} = \frac{5}{12} + \frac{1}{9} = \frac{3 \cdot 5}{3 \cdot 12} + \frac{4 \cdot 1}{4 \cdot 9} = \frac{15}{36} + \frac{4}{36} = \frac{19}{36}$$

$$9. \text{ Simplify: } \frac{h-1}{h^2} - \frac{h+5}{h} = \frac{h-1}{h^2} - \frac{h(h+5)}{h \cdot h} = \frac{h-1-h(h+5)}{h^2}$$

$$= \frac{h-1-h^2-5h}{h^2} = \frac{-h^2-4h-1}{h^2}$$

$$10. \text{ Simplify } \frac{2}{5x^2y} + \frac{3}{7xy^2} = \frac{7y \cdot 2}{7y \cdot 5x^2y} + \frac{5x \cdot 3}{5x \cdot 7xy^2} = \frac{14y + 15x}{35x^2y^2}$$